Swoon — Syllogism

Clarity, or the live of life, is conformity to order. The moral virtues are true quality; what else is of no avail. Man on account of his past must be turned from controlling reflex- developments to the new more. The two systems of Baptism and the Eucharist are perfect correspondences, and therefore highly useful at this stage of the life entered upon and continued.

The materialistic misunderstandings of the middle ages, when primitive Christianity was corrupted by priestcraft and strife, supposed a second personal Advent and a physical end of the world. A true understanding perceives rather the end of that peculiar or Babylonian state of things, and a renewal of Christianity by a revelation of the true meaning of the Divine word by means of a well-prepared mind.

Schoenberg regarded himself as having been led all the way towards the accomplishment of this unique service, and in the performance of it he was placid and modest. He published looks at his own expense. He put no name on them until near the last. He lived unmarried and frugally. To secure liberty of the press he made several journeys to Amsterdam and London, lying in the latter place. He never attempted to ornament his sympathizers. He was still writing an autobiography in 1766 after most of his theological works had been published. He said of himself that he had been led over this path by philosophy 1700 because philosophy must have a necessary art that spiritual beings should now be understood naturally; therefore I was first introduced into the natural sciences and thus prepared: the dogma that the understanding is to be held under obedience to faith had closed the Church, and what can open it is an understanding enlightened by the Lord. He also declared that he had received nothing from any one but the Lord through study of the Scriptures.

Literature: the biographies of Swoon are of Benjamin Worscester (1882) is the best. His works have been issued in original in English, and many other languages. The principal works not mentioned are Heavenly Arcana, Apocalypse Revealed, Heaven and Hell, Doctrines of the New Jerusalem, Intercourse of Soul and Body, Marriage Love, and True Christian Religion. (T.W.V.)


Syllogism [Gr. συλλογισμός; Ger. Syllogismus, Schol.: Fr. syllogisme; It. saggio- gismo. (1) Syllogism consists in stating in one proposition the truths involved in two non-contradictive propositions: the elimination of a common term. As, All e: is a.

All e: is a.

(3) The first of these propositions (which contains the predicate of the conclusion) is called the major premise; the second of which contains the subject of the conclusion, the minor premise.

(a) According to Aristotle and the great body of logicians, a simple syllogism has two premises and a conclusion, and three terms, one of which, the "middle" disappears from the conclusion. In the writer's opinion, the limitation to non-apodictic premises is contrary to usage and to propriety.

(b) The sense laid down by Aristotle at the opening of his analytics, 2. b 18, and reported with verbal accuracy at the beginning of the Tiptop and at the beginning of the Oedipus, and less formally in the logical part of the Rhetorics (A. ii. § 9), namely, συλλογισμός, λόγος ὁ ἐμπερθέρεται ἐν τῷ ἔργῳ ἡ ὁνήματα, ἡ διά συλλογισμοῦ, is a symbol in which, in some things having been pointed, something different the assumptions necessarily joins itself to them, by being involved in the being of the facts assumed.

It will be seen that, in this definition, (a) no particular stress is placed upon the premises being two or in number, although Aristotle is afterwards emphatic in insisting that every syllogism has two premises. The following inference is, on this definition, syllogistic: A stands to be the relation of benefiting everybody loved by him, hence B benefits C. The two essential characters are that the inference shall be necessary, and that the facts inferred shall be involved in the very being of the facts premised, regardless of the manner in which those premises facts may happen to have been known. The operation called syllogism by Wollert, which consists in bringing the different premises together and applying them to the one, or to another, or to a repetition of itself in a particular way, wherein lies all that sprout for currency in deductive reasoning, is a hasty syllogism. Aristotle seems to say (1. Anal. Pr. xxii.) that some necessary inferences are not syllogisms; (2. 21.) but the passage is not clear. However, if the passage is to be excluded from syllogism, then also such an inference as the following would be excluded: 'Every man is an animal'; hence whatever is in a given relation (as for example, other than for every man in the world, to every animal."

An argument consisting of a single syllogism is a monosyllogism, one of more than one a polysyllogism, called also monosyllogi- stic and polysyllogistic proof.

Trendelenburg, in his Elementa Logicas Aristotelis, gives an account of the origin of the word, remarking that συλλογισμὸς is properly used in arithmetic computation or in reasoning. Thus, in the Pythagoreans, 41 C, where Joseph translates "you may infer," the word means to put two together: two conclusions already reached and then deduce a further result. In Theaetetus, 186 D, where it is said that εὐρέτης does not consist in τοιοῦτον, but τοιοῦτον εὐρετὴς συλλογισμὸς is a synonym for what in the Plato, 249 B, is called simply λογικώς, "ἐν ὁμοιῳ τοῖς συλλογισμοῖς τοῖς ἐν γενεσις λόγοις." And Trendelenburg is of opinion that there are in Aristotelian terms of the broader meaning, as when he speaks of "οἱ καὶ συλλογισμοὶ ὑπερβλησμοὶ." Others, however, think that Aristotle's language shows that he drew a distinction between συλλογισμὸς and the syllogism from συλλογισμὸς, the latter being valid only in one and the same proposition. Besides, however, gives other instances of Aristotle's using the word in a broad sense. The chief of these is in Rhetorics, A xi. § 23, where Cope's note quoting a similar passage in the Panathenaic inscription. Lohfelden points out that one of Plato's earliest discourses in the Olisipo, 41 A, contains a regular syllogism in Coers introduced by the word συλλογισμὸς (162 E). He also remarks that in the Philodemos, the term συλλογισμὸς is used in the same technical sense as in Aristotle, and adds: "If we take into consideration the influence it would have on the Platonic view of literary composition to enumerate all possible figures of syllogism in a dialogue, as is done in Aristotle's treatise, it becomes quite probable and even probable that Plato's theory of syllogism was more than prepared by Plato." Of course this can be no more than a surmise, but it is a reasonable supposition.

In writing, as there is strong unpunctuated ground for in the passage, while Aristotle only says, he is always used by him as an idea which occupied him at first sight, but afterwards more and more, up to almost absolute incorporation for many long years.
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formed; or it may state less than the premise,
which may be called an Untrue
statement (q.v.). If the conclusion is drawn from more than one premise the reasoning is
called 'medicinal.'

In the example given above, all the terms
about which information is given in the pre-
misses reappear in the conclusion; but in the
most useful form of median reasoning, there
is involved the dropping of information, and
usually of information concerning a term
involved in each of the two premises; this
cannot be referred to as the elimination of a
middle term. Thus

\[ \text{A in the same box with C} \]
\[ \text{B in the same box with A} \]
\[ \text{A and B are in the same box with each other} \]

the conclusion is irrespective of the middle
term X. If what is desired is information
about the relation of A and B to each other, then
dropping all information concerning X
is the remotest of what was burdensome—
and that is only a term which is an aim.
Eliminative reasoning may be defined as the
elimination of information (partly contained in each of two
premises) concerning underinteresting terms and
saying what remains in one proposition.
(or as the information which is dropped was
contained in one of the premises only. It is
evidently a case of under-assertion.) So we
come to the definition (1) of the syllogism: if
the relation between the terms involved is an
instance of eliminative reasoning is the simple
copulative proposition expressed in is or in
its variants in other forms—a is b, some a
is not b, that a in b implies that a is b. See
Premiss (the reasoning involved is syllogism).

The syllogism is frequently defined as a
group of three judgments, of which the last
is necessitated by the two preceding; but that
does not exhaust such an argument as (a),
which few persons would consider a syllogism.
It is also defined (Lectra) as the union of two
judgments to produce a valid third judgment
(not consisting in the simple summation of
the other two); and by this definition the
argument (2) is excluded. More correctly,
the syllogism has been defined in general
terms to consist in the application of a
material rule to a special case. The general
rule, or law, is the major premise, the special
case the minor premise, and the application
is the conclusion.

The word application, like conclusion and
premise, is ambiguous; from the context it
ought to be inferred how the term should
be applied. The syllogism (q.v.) as well as
other forms of reasoning has been applied
in somewhat different manners. Thus in
1. the dictum de motu, only to the first
figure.

It has been argued by many logicians that all
reasoning is syllogistic, and by many others that
not all reasoning is syllogistic. The relation
between the difficulty is that: both contes
are legitimate, but the different parties
in the discussion may take a different view as to
what constitutes reasoning in a given
type of reasoning is a given
argument. Thus the argument (2) can be put in
the form: if two things are in the same box with
a third thing, they are in the same box
with each other; but A and B are in the same
box with A, and hence, &c., and this, it is
said, is syllogism.
The question, now, is this: Did the reasoning in (e), as first
given, consist in the reasoning, implicitly, to
what is authorizing a principle, or is it charac
terized by the nature of the authorizing principle
referred to? On performing an ordinary
syllogism, we have in mind the form of the
conclusion, and we say that the argument is
in reference to (e) (instinctively) we are again going through
an instance of rule-application. Now
eliminative reasoning can by processes of elimination
be brought to the first form of syllogism: it is a
type of reasoning in general, and is called
the principle of reason, which amounts to this:
Things which stand in a relation to a third
thing stand in a relation to each other. But
this is simply incorrect: if A and B are
each X, they need not stand in any direct
relation whatever to each other; if A is
longer than X and B is longer than X,
nothing whatever can be inferred about the
relation of A to B. Relations are too various
by a general statement to be made about them; some are mediating and
some are non-mediating.

There is still another view of the principle
of the syllogism, which has been held by
some philosophers: it is that it is sufficiently to the
major premise being true in the
form: if b is c, then a is not b. Thus the
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sylogistic axions are derived from anything
else by the principle of reasoning, in
addition to the conclusion of a general rule to special cases; for
under that no one has worked in it all its special
cases to unspeakable to the cause the conclusion is
already contained in the premises. It is true in
the sense that there is no gain impossible in the
syllogism: all through convenience of manipulation is great.
Thus if the axioms, postulates, and definitions
of geometry, accurately and fully stated, were
used over to a master of symbolic logic,
he could deduce from them, with infallible
certainty, the latest proposition of Euclid
without stopping to state any of the inter-
mediate propositions; but ordinary reasoners
find it vastly more convenient to proceed
from step to step, and in fact ordinary human
reasoning, unaided by a mechanical device, do not suffice for any different procedure. What
the formal reasoner as such actually does is
sit at his desk, and take into his con-
sciousness statements of fact brought to him
from South Africa and China, from the meta-
physical assumptions of the speculative
philosopher and from the literary work of the
experimental psychologist, to piece them to-
gether, so far as they have anything in com-
mon, and to get out of them known
before they fell together. His intellectual
work consists (1) in the search for middle
terms, and (2) in the reduction of the propo-
sitions containing them to forms in which he
is capable of seeing what relations implicit
ly contained in them he can make explicit, and
predict, and so on. For example: the search for
simple sentences. For example, the syllogism

No pipes are martyrs,

All hot priests are martyrs.

All martyrs are soup.

No priests are soup.

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Modern Syllogism, which begins with De Morgan and Boole, has for one of its principal characteristics the unrestricted admission of negative terms; the older logicians were always intrinsically disposed to exclude them as predicates even. They regarded a proposition as *some a is b* as belonging to a separate category from the universal and the particular proposition, and gave it a distinctive name—the "indefinite or limitative proposition." But this is unseemly; it is perfectly safe to treat negative terms like any other terms. And it is quite evident that dealing with negatives that has caused the logicians to consider that

No a is b;
No a is c;
No c is b;
No a is c;

is not a syllogism at all. The infelicity of this has been pointed out, among others, by Bradley. It is not a syllogism in the restricted traditional sense of the word, but it is an argument so exactly like that it the difference is essentially inessential; it is merely necessary to let "common terms" include "common terms though of different quality, for the common definition of syllogism to cover cases like this. The ordinary rules for the validity of syllogistic reasoning are applicable only if the propositions are stated in some one of the four traditional forms. When the eight propositions of the Complete Scheme are taken account of, the restrictions as to negatives being done away with (see Fawcett's), the number of fruitful pairs of premises is vastly increased. The argument is: e.g.,

Everything is either a or c;
Everything is either a or c;

which is read That *some a is not c*, and some *a is not c*, is true. The simple fact for the validity of the scheme of argument is this. For (1) there are three propositions, no universal and no particular, each term with one term to common. (2) The two premises must appear with unlike signs; the term common in two universal propositions must appear with like signs. The dictum involved is simply the principle of Excluded Middle: no is not b (for *no a is b*), and it is not not b (for *no a is b*), and hence it cannot exist at all.

The simple device, therefore, for testing the validity of any of the thousands of syllogisms such (p) and (q), which may present themselves to the actual reasoner, in addition to the ordinary syllogisms of the logic (16 x 10 x 5, or 800 in all), is to turn every universal proposition into the form *No a is b*, every particular into the form *Some a is b*; to deny the conclusion, and then to apply the rule just given. The source of the simplicity of this rule is that symmetrical syllogism is equivalent to *Either a is b or b is a*; but more usually we refer to a range of possibilities, and mean that whenever any fact analogous to *to d is e* is true, that is is the exact parallel to

That *c is d occurs (here and now)*.

There is a difference between the ordinary syllogism merely in the fact that one of the *Special Terms of Logic (q.v.) occurs as a premiss. They may be named *existential syllogisms*. Most propositional propositions are only treated by making the modal word a predicate, instead of attaching it to the copula—what it is, by transforming it to *possibly to b and to a it is possible*. We have merely to remember, then, that the negative of *possibly to a is necessarily not a*. (Ed.)

(2) The syllogistic inference may be analysed into several distinct steps, each of which must consist either in insertion or in omitting something. It does not evidently follow that such a method must afford a simpler representation of the necessary inference than to take the inference of the more premises as elementary. But in point of fact it does. The passage from premise to conclusion may be regarded as a permissible transformation, and the determination of the syllogistic of an inference; that is to say, the conclusion is supposed to the premises; since the premises remain true.

Aristotle's *Prior Analytics* in the definition of the syllogism takes this view. The relation between the premises and opuscula of a hypothetical proposition differs formally from the relation between a premise between a premise and conclusion in that it is essential that the conclusion is not positively determined. The *syllogism* is familiarly following the fact *C is necessarily following from the facts C holds that whenever facts analogous to *a is b* are true, a conclusion related to them as *C is a* always is. In the proposition, "If A is true, C is true," we may have regard only to the actual state of things; in any case the proposition is the *equivalent to 'Either a is b or b is a* true." But more usually we refer to a range of possibilities, and mean that whenever any fact analogous to *to d is e* is true, that is related to it as *C is to A* is true. The same occurs, in simple terms, to start with, all the relation subsists between the subject and
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predicate of a universal proposition: to say that every man is mortal is to say that, taking any object X whatever, if X is a man, X is mortal. This agrees with the definition of universal predication according to which a thing is common in all the terms of a proposition, which is commonly known as the division of genera. It is to be remarked that this definition does not make a universal proposition to assert the existence of its subject.

Now, since in any possible system of logical representation, an illative transformation must be performed and be recognized as permissible, it follows that any representation of a universal proposition which treats another relation than that of the conclusion (with the premise) is to the premises alone as the principal relation expressed by the proposition, leaves the logical analysis incomplete.

Thus, three figures (see Figure, syllogistic) of syllogisms were recognized by Aristotle, in the first of which the middle is subject of one premise (the major premise) and predicate of the other (the minor premise); in the second, the middle is the predicate of both premises; while in the third, the middle is subject of both premises. Aristotle recognizes but four moods (see Mood, in logic) of syllogisms in the first figure. Some early Peripatetics, Theophrastus it is said, added five indirect moods: Proseligmen, Colantes, Diachys, Paganon, Pentagonon, and one more is rumoured that Galen first constituted a fourth figure by transposing the premises of the third.

About the 26th century, this figure began to be commonly admitted, and is now almost universally so. With this, the five modes have somewhat necessarily changed their names. Those now most usual are Bramantip, Catenae, Damalis, Ferpio, Ferpal, Peripatos.

The logic of Relativae (q. v.; see also Gnomologia Logica) throws great light on syllogism. It shows that the copulated premises are, as expressed in Eusebius’s algebra of duals, the same as one of the three forms, (c + q) (x + p) (c + o) = (v + h) / Say these respectively

z = x + t

The last is a so-called spurious conclusion, but such syllogisms are not excluded from consideration in almost all treatises. There remain, therefore, but two kinds: the syllogism of the genus and the particular. Beginning with Barrow, it can be mathematically proved that every possible necessary inference from two premises, both having the same form as the conclusion, must depend upon a relation of inference (see Schneider, Gg. u. p. 63).
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The conversion of I given from the second to the first premise is thus to be made, the first premise giving 'Some M are P,' which by another conversion of I gives 'Some P are M,' which is the conclusion. The conversion of E depends on the fact that it is in essence an equi-

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syllogistic...
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Some A is all B, meaning that a part of the collection of A's is identical with the whole collection of B's. Some A is some B, meaning that a part of the collection of A's is identical with a part of the collection of B's. Any A is not any B, meaning that the whole collection of A's is excluded from the whole collection of B's. Some A is not some B, meaning that a part of the collection of A's is excluded from a part of the collection of B's. Any A is not some B, meaning that the whole collection of A's is excluded from a part of the collection of B's.

There is also a predicate at a second series of meanings in depth, never clearly explained. Such a system is glaringly faulty; but it had some vogues in its day. There were also some other somewhat similar systems by Archbishop Thomson, Spalding, &c.

De Morgan constructed various systems of syllogistic of much greater merit, although, after all, they only complicate the subject to no purpose. His principal system, in which he postulates that no term is without breadth or is incontestable with the universe, is based on the following propositional forms: A: All X's are some Y's, i.e. Any A is X in Y. E: All X's are not (all) Y's, i.e. Any A is not in Y. I: Everything is either some X or some Y (or both), i.e. Any non-X is non-Y. O: Some X's are all Y's, i.e. Any non-Y is non-X. Y: Some X's are not (all) Y's, i.e. Some A is non-Y. Y': Some X's are some Y's, i.e. Some non-Y is Y. Any non-X is non-Y.

Some of these, from the application of not to the subjects of the old four, so that it might be called the system of the thoroughly qualified syllogism. Whether or not this qualification of the subject can be said to be involved in the structure of any syllogism is the question upon the decision of which that of the acceptance of De Morgan's system must depend. Under these conditions (figure of course not transposing) De Morgan gets eight universal syllogisms: (a) (b) (c) (d) (e) (f) (g) (h); eight major-predicate syllogisms: (a) (b) (c) (d) (e) (f) (g) (h); and eight minor-predicate syllogisms: (a) (b) (c) (d) (e) (f) (g) (h).

De Morgan also takes account of complex premises. Moreover, he develops the syllogistic of relative terms, and especially the highly important syllogism of transposed quantity; and he, Boole, and others studied numerically definite syllogistics.

The following technical phrase may be defined:

Aristotelian syllogism: Blundeville, in his treatise of Logic (1750), in illustration of his position that 'God hath prescribed certain bounds of necessity . . . which bounds are syllogisms richly made,' instances this position: 'If one piece of wax be worth as much as a grain, what is ten pieces of wax worth? Marry tensae greater, which is proved by a Syllogism in this manner: Every piece of wax is worth a grain, but here ten piece of wax: Ergo, they are worth ten grains, and like as in these kinds of Syllogism Arithmetical, proportion which is to be judged by man natural knowledge, deth shew the Consquents to be infinit, even so the Consequences in infinit syllogisms are shew to be infinit, by such demonstration as are not farr fetched, or doubtful, but are manifest, plain and evident.'

Categorical syllogism: a syllogism composed of a conditional premise, which is to be inferred, so that the consequent of the major premise becomes the antecedent of the consequent of the minor premise, and so the major premise becomes the antecedent of the minor premise. Common syllogism: a syllogism whose middle is a general term. Compound syllogism: a syllogism having more than two premises. Hypothetical syllogism: a syllogism that, in a hypothetical conditional premise, contains a conditional premise, (or disjunctive) or copula in both.

Conditional syllogism: a syllogism containing a conditional premise, especially the Modus Ponens and Modus Tollens, although some logicians refuse to these arguments the name of syllogism.

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Comparative syllogism, according to Aristotle (Post. log. 11), a conditional syllogism (above).

Contingent syllogism: an syllogism for which the whole quantity of the conclusion is nothing but the whole quantity of the premise taken together, just as the same logicians exclude other arguments from the class of syllogisms because their conclusions contain matter not contained in the premises taken together.

Indirect syllogism: a syllogism which needs to be proved to be valid by reduction to direct syllogism.

Modal syllogism: a syllogism containing modal propositions.

Perfect syllogism: a syllogism of which no part of the leading principle can be stated as a premise and so eliminated from the leading principle; since this is attempted, it is still needed as a leading principle.

Proper syllogism: the name given to an Expository syllogism.

Proportional syllogism: a species of relative syllogism depending on proportions. The following is a stock example:

Ut se habent duo ad quattuor, ut se habent tria ad sex.

Sed duo se habent ad quattuor, ut sex dividendum ad totum:

Ergo, tria se habent ad sex, ut sex dividendum ad totum.

Pure syllogism: a syllogism composed of proportions in genus.

Relative syllogism: a syllogism involving relative terms. Such syllogisms have been recognized as proper subjects of logic by all logicians beginning with Aristotle.

Simple syllogism: a syllogism not capable of division. It consists, of three terms distinguished in two or more syllogisms. But the indirect syllogisms which have always been recognized as composed of direct syllogisms and immediately inferred and are now classed as simple syllogisms, and that, although Aristotle and others prove these immediate inferences syllogistically.

Similar syllogism: see Expository syllogism.

Sophistic syllogism: a syllogism intended to deceive, or which it is pretended to be devoted to destroy. See Sorites.

Tentative syllogism (ratio syllogism): seems to be much the same as a Diacritic syllogism (above).

Valid syllogism: a syllogism whose premises assert facts whose being is partly composed of the being of the fact asserted in the conclusion.

Syllogism of transposed quantity: a syllogism in which the whole quantity of one conclusion term, or its contrary, is applied in a premise to the other concluding term, or its contrary, by means of a relation of one-to-one correspondence. As in the following: Some A's are not B's; for every X there is a Y which is Z; hence, some A's are not B's.